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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/563,854

06/09/2006

Euijoon Yoon

504478.24

3828

27128 7590 11/18/2010  
HUSCH BLACKWELL LLP  
190 Carondelet Plaza  
Suite 600  
ST. LOUIS, MO 63105

EXAMINER

MALDONADO, JULIO J

ART UNIT

PAPER NUMBER

2823

NOTIFICATION DATE

DELIVERY MODE

11/18/2010

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

pto-sl@huschblackwell.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/563,854	<b>Applicant(s)</b> YOON ET AL.	
	<b>Examiner</b> JULIO J. MALDONADO	<b>Art Unit</b> 2823	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 09 September 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1,3 and 5-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 3 and 5-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)                        | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claim 1 and claims depending from claim 1, that is, claims 3 and 5-14 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. In reference to claim 1, the applicants recite "...a third step of releasing nitrogen from the second nitride semiconductor epitaxial layer by collectively increasing a temperature of the first nitride semiconductor epitaxial layer, nitride semiconductor epitaxial layer, and the third nitride semiconductor epitaxial layer within a growth chamber...". However, while the applicants provide support for a step of releasing nitrogen from semiconductor layer, the applicants do not have support for a step of performing said nitrogen releasing step within a growth chamber, as recited in claim 1.

### ***Conclusion***

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Vaudo et al. to U.S. 6,156,581 disclose a method of

Art Unit: 2823

manufacturing a nitride semiconductor epitaxial layer comprising the steps of forming a series of nitride semiconductor layers over a host substrate; and separating said series of nitride semiconductor layers from said host substrate, wherein said process is performed within said growth chamber (Vaudo et al., column 8, lines 22 - 49), but fails to disclose releasing nitrogen from a second nitride semiconductor epitaxial layer by collectively increasing a temperature of the first nitride semiconductor epitaxial layer, nitride semiconductor epitaxial layer, and the third nitride semiconductor epitaxial layer within a growth chamber, as disclosed in claim 1. However, said limitation fails to satisfy the written description requirement under 35 U.S.C. § 112, first paragraph.

Claims 1, 3 and 5-14 would be allowable if the applicants overcome the rejection under 35 U.S.C. § 112, first paragraph by showing that there is sufficient written description to inform a skilled artisan that the applicants were in possession of the claimed invention as a whole at the time the application was filed. See MPEP §2163 for guidelines pertaining the written description requirement.

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Chikuma et al. to U.S. 6,711,192 B1 discloses in Figs.5-13 and related text a method of forming nitride semiconductor epitaxial layers comprising forming a series of nitride semiconductor epitaxial layers on a substrate; patterning said series of nitride epitaxial layers; and after performing said patterning step, releasing nitrogen from one of said nitride semiconductor epitaxial layers (Chikuma et al., column 5, line 11 - column 8, line 52). However, said limitation fails to satisfy the written description requirement under 35 U.S.C. § 112, first paragraph. Claims 1, 3 and 5-14

Art Unit: 2823

would be allowable if the applicants overcome the rejection under 35 U.S.C. § 112, first paragraph by showing that there is sufficient written description to inform a skilled artisan that the applicants were in possession of the claimed invention as a whole at the time the application was filed. See MPEP §2163 for guidelines pertaining the written description requirement.

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JULIO J. MALDONADO whose telephone number is (571)272-1864. The examiner can normally be reached on Mon-Fri, 8:00 A.M.-4:00 P.M..

Art Unit: 2823

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Smith can be reached on (571)-272-1907. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Julio J. Maldonado  
Primary Examiner  
Art Unit 2823

/Julio J. Maldonado/  
Primary Examiner, Art Unit 2823